

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

4.5 HAZARDS AND HAZARDOUS MATERIALS

*Section 4.5
Hazards &
Hazardous
Materials*

4.5.1 Introduction

This section of the EIR describes the existing conditions related to the use, storage, and transport of hazardous materials on the North and West Campuses. This section also analyzes the potential for implementation of the proposed project to create a significant hazard through the routine transport, use, or disposal of hazardous materials or the release of hazardous materials into the environment; to result in a safety hazard through development of a site located within an airport land use plan; to result in development of a site which is included on a list of hazardous materials sites; to impair implementation of or physically interfere with an adopted emergency response plan; or to expose people or structures to a significant risk from wildland fires.

Information in this section is based on various sources, including the University Emergency Operations Plan (EOP); the State Department of Toxic Substances Control (DTSC); the State Department of Oil, Gas, and Geothermal Resources (DOGGR); the Santa Barbara Municipal Airport; a report of hazardous materials sites within one-half mile of the campus prepared by Environmental Data Resources (October 2003); previous environmental documentation prepared for the University campus; a Phase I Environmental Site Assessment (ESA) of the Ellwood-Devereux Joint Proposal Area, excluding the Devereux Foundation property and existing faculty and student housing developments located on the University of California, Santa Barbara, West Campus and other campus data resources. Full bibliographic entries for all reference materials appear in Section 4.5.6 (References) of this section.

Potential effects include those associated with contaminated sites and the potential exposure to hazardous materials used, stored, transported, or disposed of during construction activities (such as exposure to asbestos or lead as a result of building demolition) or campus operations. Potential water quality effects from construction-related surface water runoff that could contain hazardous materials and/or from groundwater dewatering during construction or operation are discussed in Section 4.3 (Hydrology and Water Quality). Impacts related to toxic air contaminants that could be emitted during campus operations are discussed in Section 4.14 (Air Quality).

Three comment letters and four verbal comments related to hazards and hazardous materials were received in response to the NOP. Comments on the NOP, and a summary of issues raised during scoping are included in Appendices A and B of this EIR. The Department of Toxic Substances Control suggests that the EIR process conduct an environmental review to determine if there has been a release or threatened release of hazardous material. The letter also offers to provide information on the agency's School Property Evaluation and Cleanup Program and/or its Cleanup Loans and Environmental Assistance to Neighborhoods Program.

Additional written and verbal comments on the NOP and at the Public Scoping meeting included suggestions that the EIR address: 1) the availability of an up-to-date toxics study and an

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

outline of on and off-site remediation actions; 2) an emergency evacuation plan available to the public, particularly for Devereux School, the University community, hikers, and beachgoers; 3) mapping of existing pipes and cables, especially in the area of Cannon Green Road; 4) the potential for rupture or leaking tanks and pipelines at Ellwood Marine Terminal; 5) the possibility of hazardous materials leaving the Ellwood Marine Terminal site by truck; and 6) the existing odor problems for the West Campus Family Student Housing complex.

4.5.2 Existing Conditions

4.5.2.1 Overview

The Ellwood-Devereux area has been used by humans for hundreds of years. The presence of archaeological sites shows the area was occupied by the Chumash. Later, Spanish and Mexican settlers used the grasslands for cattle and horse grazing. The portion of the Joint Proposal area under the University's jurisdiction is located in an area of past and present oil and gas development. The Ellwood oil field was once one of the most productive oil fields in the area. The discovery well for the area, test well Luton-Bell #1, was drilled in 1928 and produced clean, high-grade oil. Oil drilling activities in the area subsequently flourished, especially to the west of the University's jurisdiction. In order to develop a larger portion of the field, drilling expanded to tideland areas through the construction of piers and a coastal access road. The peak productive life of the field was reportedly between 1928 and 1931. Oil and gas produced from the wells were stored in aboveground tanks until ready to be processed.

The Bishop Tank Farm and the Ellwood Marine Terminal were installed. Grazing continued during this period. In 1954, the University moved its campus to the current location. Since then, the surrounding area has experienced considerable residential and commercial development. Most of the oil development was removed from the area in the 1970s, with the exception of the Ellwood Marine Terminal. Since that time, the area has remained vacant land and has been used for recreational use.

Petroleum hydrocarbon and petrochemical contaminants are likely to be associated with past oil drilling activities. Potential impacts to soil and groundwater could have resulted from historic oil wells, tanks, flowlines, or sumps, and other oil field-related equipment. Sumps were typically excavated dirt ditches from the 1920s through the 1940s. Sumps are associated with the oil well for the purpose of holding drilling fluid, cuttings, and oil generated during the initial drilling of the well. Records of exact locations of sumps were not maintained as a practice. In addition, the cleanup practices during this time frame were usually to cover the sump or natural seeps with topsoil.

Abandonment of the onshore wells in the project region may have occurred as early as the 1930s. DOGGR has specific requirements for abandonment or re-abandonment of historic oil wells. These oil wells were not abandoned in accordance with current standards, which include installing a well head and blow out prevention equipment, specific requirements for cement plugs and inert mud fluid, cutting casing at least 5 feet below finished grade, and welding a steel

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

plate on top of the well head. These standards were not in place when the wells in the University's jurisdiction were abandoned from the 1900s through 1965.

*Section 4.5
Hazards &
Hazardous
Materials*

Areas with known historic hazardous materials contamination are shown on Figure 4.5-1.

4.5.2.1.1 Regulatory Definitions. The following are the definitions of hazardous materials and hazardous waste:

Hazardous Material. Any material that because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering regulatory agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. A number of properties may cause a substance to be considered hazardous including toxicity, ignitibility, corrosivity, or reactivity (California Health and Safety Code, Section 25501(k)).

Hazardous Waste. A waste or combination of waste which because of its quantity, concentration or physical, chemical, or infection characteristics, may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitation reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed (Title 22, CCR, Section 66084). The term hazardous waste includes extremely hazardous waste and acutely hazardous waste.

4.5.2.1.2 Impacts to Soil and Groundwater. Federal and state site remediation regulations are enforced by the Regional Water Quality Control Board (RWQCB) and the Santa Barbara County Fire Department Fire Prevention Division (FPD). The FPD is the lead agency for the area and has instituted a Site Mitigation Unit (SMU) responsible for the supervision of cleanup at sites located throughout the County. The County will grant closure of an impacted site when confirmatory samples of soil and groundwater taken reveal that levels of contaminants are below the standards set by FPD and the RWQCB.

4.5.2.1.3 Management of Hazardous Materials by the University. The University maintains a Hazardous Materials Business Plan with the Santa Barbara County Fire Prevention Division for the use, inventory, and emergency response planning and training associated with hazardous materials. A Hazard Communication (HAZCOM) Program to ensure the health and safety of all University employees working with or around hazardous materials is also implemented. Components of the HAZCOM program include conducting an inventory of all hazardous materials in each work area, labeling all hazardous materials with product name and appropriate hazard warnings, compiling Material Safety Data Sheets (MSDSs) and making the MSDSs available, training all employees about specific hazards of all hazardous materials in their workplace, and providing and maintaining appropriate personal protective equipment

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

(PPE) as required. The University maintains a hazardous waste program so that all hazardous waste is collected, stored, and disposed of in accordance with federal, state, and local regulations.

4.5.2.1.4 University Emergency Operations Plan. The University has developed an EOP, designed with the intent to assist the University preparation and response to all levels of emergencies. The University Emergency Management Program is designed to protect life and health, minimize property and economic damage, and to maximize restoration of normal activities for the campus community. The EOP incorporates the requirements of the Standardized Emergency System (SEMS). SEMS was established to provide an effective response to multi-agency and multi-jurisdictional emergencies in California. According to the EOP, the Incident Command System (ICS), a field level emergency response structure, will be implemented for the response activities. The University emergency response organization, when implemented, includes policy and management groups operating from a designated Emergency Operations Center (EOC).

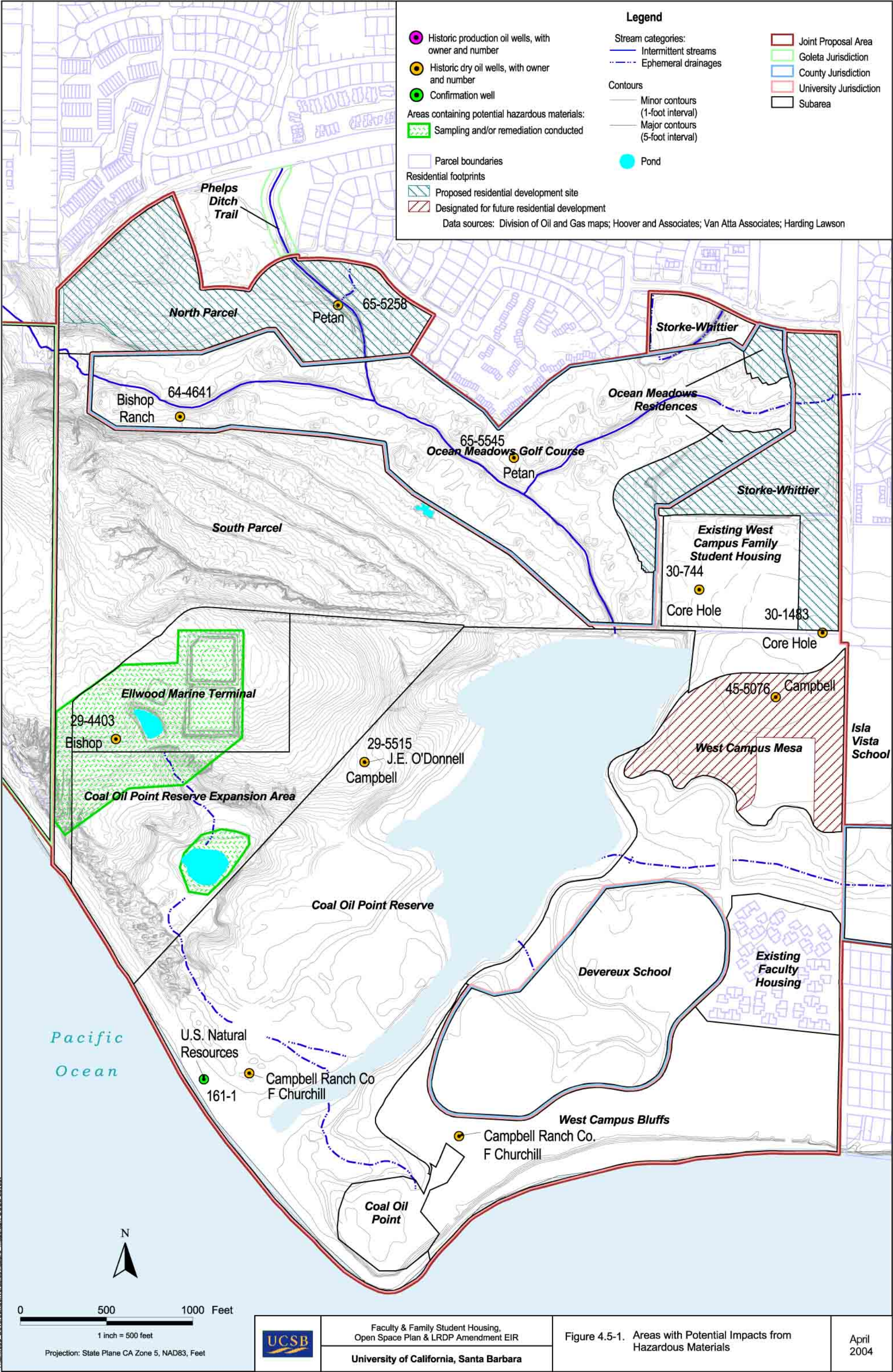
The University has also developed a comprehensive Hazardous Materials Emergency Response Plan as an adjunct to the campus EOP. The EOP establishes procedures for responding to a wide range of hazardous materials-related emergencies, and is also based on the ICS.

4.5.2.1.5 University Emergency Response. The University has a number of on-campus emergency response capabilities, including law enforcement, emergency medical services, building and utility repair, and hazardous materials response. USCB maintains these primary resources through the following departments:

- Police Department
- Rescue/Paramedics
- Facilities Management
- Environmental Health and Safety (EH&S)
- Housing and Residential Services

The UCSB Emergency Response Team is an interdisciplinary, interdepartmental team organized and managed by EH&S. It is trained extensively in hazardous materials emergencies. It is also trained in structural assessment of earthquake damaged building, allowing for the most efficient reoccupancy possible. In addition, future capabilities include light urban search and rescue. Other campus departments also play an active, supportive role in emergency response due to their operations, equipment, and capabilities depending upon the nature of the emergency. These departments include:

- Business Services
- Central Stores



FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

- Housing & Residential Services
- Physical Activities and Recreation
- Public Affairs
- Student Health Services
- Transportation and Parking Services
- University Center/Events Center

The Emergency Operations Center (EOC), located within the EH&S Building, brings together all relevant information about the emergency by organizing and presenting the information in a useful format to the organization's decision-making body and facilitating the coordination of resources needed to offset the effects of the emergency.

4.5.2.1.6 Environmental Database Search. During a Phase I ESA, URS reviewed information gathered from several environmental databases through EDR to evaluate whether activities on or near the subject property have the potential to impact the property. The Ellwood Marine Terminal was identified on the RCRIS SQG database as a small quantity generator of hazardous waste and on the Aboveground Storage Tank database as operating a 2,730,000-gallon storage tank. No violations were reported.

The Devereux Foundation was identified on the Hazardous Waste Information System, the Leaking Underground Storage Tank (LUST) database, and the Hazardous Waste and Substances Sites List (Cortese). The Devereux Foundation was listed as generating asbestos-containing waste (likely from building renovation or demolition). According to the LUST and Cortese databases, the property was listed as having gasoline storage tanks that leaked. The current status was reported as "case closed" by the local agency. Therefore, there appears to be low potential for concern.

No additional facilities were identified on the EDR report that are anticipated to impact the University's Jurisdiction.

4.5.2.2 North Campus (N. Parcel, S. Parcel, and Storke-Whittier)

4.5.2.2.1 North Campus—North Parcel. One dry hole oil well, Pinde Oil Co. "Petan" #1, was identified on the DOGGR Map (refer to Figure 4.5-1). Based on this information, the potential of subsurface impact to soils exists in the area of the oil well and associated sump. In addition, since this well was abandoned in 1965, it has not been properly abandoned according to current DOGGR standards.

4.5.2.2.2 North Campus—South Parcel. Potential subsurface impacts by hazardous materials were not identified in this area during a recent Phase I ESA (URS, 2003).

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

4.5.2.2.3 North Campus—Storke Whittier. Potential subsurface impacts by hazardous materials were not identified in this area during a recent Phase I ESA (URS, 2003).

4.5.2.3 West Campus Mesa

Three dry hole oil wells were identified on the DOGGR map as TEPI #1, TEPI #2, and Union Oil Co. of California “Campbell” #1 (refer to Figure 4.5-1). Based on this information, the potential for subsurface impacts exists in the area of the oil wells and associated sumps. In addition, since these wells were abandoned in the 1930s and 1940s, these wells were not properly abandoned according to current DOGGR standards.

4.5.2.4 West Campus Bluffs

One dry oil well was identified on a DOGGR map as Campbell Ranch Co. #1 (refer to Figure 4.5-1). Based on this information, the potential for subsurface impact to soils exists in the area of the oil well and associated sump. In addition, since this well was abandoned in 1945, it was not abandoned according to current DOGGR standards.

4.5.2.5 Coal Oil Point and COPR

4.5.2.5.1 Coal Oil Point. The COPR, including the COPR Expansion Area, was historically used for oil production, storage, and shipping operations as early as the 1920s. Arco previously operated an oil/natural gas-processing unit on the 0.35-acre Bishop Tank Farm lease in the southwest portion of the site. The processing unit was built in the early 1970s and was operational until 1987 when it was dismantled. The Ellwood Marine Terminal has been operational since the 1930s and consists of a network of former and active tanks, pipelines, roads, buildings, ponds/sumps, and other oil-related ancillary facilities. Active tanks include two 65,000-barrel crude oil storage tanks in separate containment areas and a 10,000-barrel water tank (refer to Figure 4.5-1). The facility is surrounded by a gated, chain link fence. Outside the fenced area, a single 12-inch crude oil loading line extends southwesterly from the pump house to the beach. The pipe extends offshore to the barge mooring facility. The Ellwood Marine Terminal receives oil from a 10-inch pipeline extending north-south along the western perimeter of the University’s property and enters the Ellwood Marine Terminal in the northwest corner. The Ellwood Marine Terminal previously occupied a 40-acre leasehold on the property, but has been reduced in size and is currently a 17.56-acre parcel.

Based on a Phase I Environmental Site Assessment of the West Devereux property (the Ellwood Marine Terminal and surrounding area) conducted by Harding Lawson Associates (HLA) for the University of California in March 1993 (HLA, 1993a), it was concluded that due to the site’s historical use as an oil treating and storage facility, four areas required further investigation. These areas included the oil storage terminal and associated components, oil transportation pipelines, the former Bishop Tank Farm, and two abandoned oil or gas wells.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

In April 1993, HLA performed a Phase II Site Assessment of the West Devereux Property (HLA, 1993b) for the University of California. A field investigation program was performed consisting of geophysical clearance and location surveying, a soil and gas survey, drilling and soil/sediment sampling, surface water sampling, and groundwater sampling. Initial investigation identified several areas of potential hydrocarbon-impacted soils. Based on these results, the identified areas were further evaluated during the second phase of work. Areas of potential concern were investigated by mechanically drilling 17 boreholes, hand augering 118 boreholes, and collecting seven sediment samples, two surface water samples, and six groundwater samples. The Phase II report identified total petroleum hydrocarbons (TPH) concentration in soil at various areas at the site. Only limited amounts of perched groundwater were identified at the site. Some groundwater samples collected were found to contain low concentrations of organic compounds. Areas that reported the presence of TPH in soil or perched groundwater were identified as the Skim Pit, the “Former Sump,” the upper drainage swale, the pond area, and small isolated areas (the ballast tank, end culvert of the shipping line, the incoming crude oil pipeline, a small area adjacent to the southern crude oil storage tank, and small soil piles).

Skim Pit Area. Concentration of total recoverable petroleum hydrocarbons (TRPH) between 7.5 and 4,000 milligrams per kilogram (mg/kg) were identified in soil and sediment samples collected in and around the skim pit, ballast tank, and inactive pumphouse. In addition, localized areas of tar were observed around the skim pit and ballast tank.

The “Former Sump.” Concentrations of TRPH between non-detectable and 1,200 mg/kg were identified in soil collected in and around the sump.

The Upper Drainage Swale. Concentrations of TRPH between non-detectable and 26,000 mg/kg were identified in soil collected in the upper portion of the drainage swale.

The Pond Area. Soil and sediment samples collected in the pond area reported concentrations between 10 and 41,000 mg/kg TRPH. Small isolated tar clasts were observed on the eastern side of the pond.

Ballast Tank. Soil samples collected from two hand-augered borings in the vicinity of the ballast tank contained TRPH concentrations of 1,500 and 3,700 mg/kg.

End Culvert. TRPH concentrations between 420 and 21,000 mg/kg were identified in the end culvert of the shipping pipeline.

Incoming Crude Oil Pipeline. Samples from one hand-augered borehole contained 2,900 and 11,000 mg/kg TRPH.

Southern Crude Oil Storage Tank. TRPH was reported at 5,700 mg/kg in one sample collected at this location.

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

A Corrective Action Plan (CAP) was prepared by Versar in March 1994. The objective of the remedial actions at the site was to remove and reduce the containment levels of petroleum hydrocarbons identified in soils, and the potential risk to human health and the environment. The CAP proposed remedial action for all areas of concern at the site. The CAP identified nine areas requiring remediation as discussed above. Remedial activities proposed included soil excavation, off-site treatment, on-site treatment, capping, and in-situ soil bioremediation.

After review of the CAP and discussions with Mobil, the RWQCB allowed Mobil to delay cleanup of the lease site until termination of the lease. Remediation of the lease site has not been completed to date.

However, according to the RWQCB, there was no reason to delay the cleanup of the upper drainage swale and the pond area. Dames & Moore subsequently prepared a Sampling and Analysis Workplan for the pond area and upper drainage swale in July 1994 for the University Exchange Corporation. The Workplan was requested by the RWQCB to address sampling and analysis procedures to be followed during soil remediation activities at the site. According to a letter from the RWQCB dated May 5, 1994, soil cleanup levels for the site would be 200 mg/kg for TPH or 1,000 mg/kg TRPH for soils within 5 feet of ground surface and 2,000 mg/kg for soils below 5 feet.

According to a West Devereux Soil Remediation Report of the Former Sump and Drainage Swale (Dames & Moore, 1996) prepared for the University Exchange Corporation, approximately 45 cubic yards of crude oil-impacted soil was excavated and removed from the area of the former sump. Approximately 8 cubic yards of crude oil and tar-impacted soil was removed from the drainage swale located east of the former sump. Surface soils in the pond area were also excavated until visible deposits of crude oil and tar were removed. The resulting 53 cubic yards of crude oil-impacted soil was hauled off site for disposal. Based on excavation observations and analytical results, approximately 5 to 10 cubic yards of crude oil-impacted soil remains at the site to the north of the excavation and near the northwest corner of the excavation. This remaining zone of impacted soils is approximately 1 to 2 feet thick at a depth of 7 to 10 feet below ground surface. It was Dames & Moore's opinion that the sump closure be considered complete and no further action required, based on the relatively small volume of crude oil impacted soil left in place (5 to 10 cubic yards) and the absence of volatile organic compounds (VOCs) and benzene, toluene ethylbenzene, and xylene (BTEX) in soils, the absence of shallow groundwater, and because the site is considered an environmentally sensitive area. Dames & Moore requested no further action from the RWQCB. A letter from the RWQCB dated July 10, 1996, approved the request to leave 5 to 10 cubic yards of crude oil contaminated soil in place. Final remediation would be completed when Veneco's lease is terminated in 2016. Remediation would be conducted under oversight of the County's Fire Protection Division, Hazardous Materials Unit.

Remediation of the petroleum hydrocarbon-contaminated soil at the Bishop tank farm was required by the Santa Barbara County Environmental Health Services (SBCEHS) as part of closure activities, after storage tanks and surface equipment at the tank farm were dismantled

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

and removed in 1987. The primary constituents of concern at the site included VOCs and petroleum hydrocarbons from crude oil and solvents used and stored at the tank farm. In 1989, Arco began remediation of the area in coordination with the SBCEHS. Initial excavation revealed more extensive impacts than were initially expected. Approximately 50,000 cubic yards of soil were removed from the site. Excavation and remediation to cleanup levels set by SBCEHS occurred between June 1989 and July 1992. Final site restoration was completed in August 1992. A letter from the SBCEHS dated February 2, 1993, confirmed the completion of the site investigation and remedial action.

*Section 4.5
Hazards &
Hazardous
Materials*

Two dry oil wells were identified on the COPR. Pinde Oil Co. “Petan” #1 and Cady Oil Co. “Bishop” #1 were identified on the DOGGR map. Based on this information, the potential of subsurface impact to soils exists in the area of the oil wells and associated sumps. In addition, these wells have not been properly abandoned according to current DOGGR standards.

A risk assessment of the Ellwood Marine Terminal was prepared by PLG Engineers, Applied Scientists and Management Consultants in 1996 to assess the potential risk of fire, explosion, and release of toxic gas from the Ellwood Marine Terminal (LRDP Amendment EIR). The PLG analysis concluded that no explosion hazards exist at the Ellwood Marine Terminal. Fire-based thermal radiation hazards exist at the Ellwood Marine Terminal facility and create a potential hazard to nearby areas. Although no ignition sources were identified at the Ellwood Marine Terminal, the potential was reported to exist for crude oil to spill, ignite, and burn. PLG reported no scenarios that would lead to a catastrophic release of hydrogen sulfide gas from the Ellwood Marine Terminal facility. However, evaporation of hydrogen sulfide gas from a pool of spilled crude oil could be expected at a concentration of 30 ppm in air at distances up to 355 feet of the Ellwood Marine Terminal.

Two dry oil wells were identified in the eastern portion of the COPR (in the original COPR, east of the COPR Expansion Area) on a Division of Oil and Gas Map as J.E. O'Donnell “Campbell” #1 and Campbell Ranch Co. “F. Churchill” #1. Based on this information, the potential for subsurface impact to soils exists in the area of the oil wells and associated sumps. In addition, these wells have not been properly abandoned according to current DOGGR standards.

4.5.2.5.2 Venoco's Quantitative Risk Assessment (QRA) of Platform Holly and Ellwood Facility. Venoco operates Platform Holly and the Ellwood Marine Terminal Facility to produce, process, and treat oil and gas. Platform Holly is located offshore. The Ellwood Marine Terminal Facility is located west of the Sandpiper Golf Course, approximately 600 feet from the Pacific Ocean. Oil and gas are produced from Platform Holly's 30 wells, separated, and sent through separate oil and gas pipelines to the Ellwood Marine Terminal Facility.

The QRA was prepared in 2000 to assess the potential acute risk (serious injuries or fatalities) to the public due to accidental releases from the facility, and to develop mitigation measures to reduce those risks. Potential releases of gas, gas liquids, and hydrogen sulfide (H₂S) rich streams were assessed. The study did not address the environmental risks associated with oil spills. Risks to off-site receptors including residential areas, roads, and public areas were assessed. The QRA

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

used hazards and operability studies to identify potential hazards. The results were used to develop various release scenarios for Platform Holly and the Ellwood Marine Terminal Facility. Fault and event trees were used to evaluate the likelihood of these hazards occurring. Consequence modeling was used to evaluate the threat to the public in the areas surrounding the Ellwood Marine Terminal Facility and Platform Holly. The data from these three steps were combined to generate risk profiles and risk contours for Platform Holly and the Ellwood Marine Terminal Facility.

The results of the QRA concluded that the main risk to the public from releases at the Ellwood Marine Terminal Facility is due to the separation and storage of liquefied petroleum gas (LPG) and natural gas liquids (NGL). These gas liquids produce large flame jets or boiling liquid expanding vapor explosions (BLEVEs) that if released, can affect a large area. This, combined with the relatively high population close to the facility (an estimated 2,800 people could be within 3,000 feet of the facility after planned development, with the closest residence 1,200 feet from the Ellwood Facility) produced risks that were considered unacceptable based upon the County's Environmental Thresholds for public safety. The County defines serious injury as "physical harm to a person that requires medical intervention." A number of risk reducing measures were developed to reduce the overall risk from the Ellwood Facility. These measures included items such as fire proofing the liquid petroleum gas and natural gas liquids tanks to reduce the rate of vessel failures due to fire impingement and the installation of remotely operated flow valves and flow orifices to reduce flows in the event of an equipment leak or rupture (Arthur D. Little, Inc., 2000). With the implementation of these measures, the public risk from the Ellwood Facility would be considered acceptable based upon the County's Environmental Thresholds for Public Safety. According to the Santa Barbara County Planning and Development Department, implementation of these measures has been completed or is currently being implemented.

Platform Holly does not store large quantities of flammable gas liquids and therefore has smaller hazard zones than the Ellwood Marine Terminal Facility. This, combined with low populations (boats only), produced an acceptable level of risk. None of the serious injury or fatality hazard zones associated with Platform Holly extend onshore.

4.5.2.6 Other Human Health Hazards

Other human health hazards in the area include wildland fires, Radon-222, and oil and gas seeps.

Most of the area under consideration for development is generally considered a light fuel area with annual grasses, and as such, is less vulnerable to large conflagrations. However, a part of the Open Space Plan area adjacent to the proposed project area contains stands of eucalyptus trees. The western boundary of the North Campus, in particular, includes a large stand of the trees. The eucalyptus are a focus of fire prevention on the part of the Santa Barbara County Fire Department because eucalyptus are typically highly flammable due to volatile oils in their foliage, bark streamers that readily catch fire, open crowns that facilitate updraft, and large amounts of leaf litter (USDA Forest Service). The County does have a fuel modification program, including

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

prescribed setbacks and notification of residents regarding brush clearing requirements; however, brush clearance under the eucalyptus stands has been limited due to the use of the biological sensitivity of the trees (i.e., host to the migratory monarch butterfly).

*Section 4.5
Hazards &
Hazardous
Materials*

Radon-222 is a gas commonly found in certain rocks and soils in Santa Barbara County. Inhalation of radon gas can cause harmful health effects, including an increased risk of developing lung cancer. Radon is most common in Rincon Formation siltstone and Rincon-derived soils. Based on regional geologic mapping, no Rincon Formation rocks underlie the Open Space Plan. Thus, the hazard of Radon gas sourced in rocks and soils is low. Given that some of the estuarine soils in the former Goleta and Devereux Sloughs were derived from erosion of Rincon Formation rocks, however, it is possible that Radon gas is present in these areas.

Natural gas and oil are expelled from rocks both onshore and offshore in Santa Barbara County. Some of the largest known natural oil and gas seeps in the world occur offshore Coal Oil Point (Quigley et al., 1999). Tar seeps do not present a hazard, but gas seeps (including methane and hydrogen sulfide) and oil wells that have not been properly abandoned may be toxic and are flammable, presenting a potential hazard to the public.

The potential for exposure to hazardous materials to result in adverse health effects depends upon a complex interaction of factors to determine the effects of exposure to hazardous materials:

- The exposure pathway (the route by which a hazardous material enters the body)
- The amount of material to which the person is exposed; the physical form (e.g., liquid, vapor) and characteristics (e.g., toxicity) of the material
- The frequency and duration of exposure
- The individual's unique biological characteristics, such as age, gender, weight, and general health

Adverse health effects from exposure to hazardous materials may be short-term (acute) or long-term (chronic). Acute effects can include damage to organs or systems in the body and possibly death. Chronic effects, which may result from long-term exposure to a hazardous material, can also include organ or systemic damage, but chronic effects of particular concern include birth defects, genetic damage, and cancer.

4.5.2.7 Santa Barbara Municipal Airport

Figure 4.6-3, in the Land Use section, shows the proximity of the project site to the Santa Barbara Municipal Airport, located approximately three miles east/northeast of the project area. According to the Santa Barbara County Airport Land Use Plan, portions of the project area (e.g., the proposed residential development) are partially located within the existing and future

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

Approach Zone of the Santa Barbara Municipal Airport, beyond the one-mile marker from the end of Runway 7, and entirely located within an Airport Influence Area (AIA).

4.5.3 Regulatory Framework

The management of hazardous materials and hazardous wastes is subject to numerous laws and regulations at all levels of government. These laws and regulations apply to operational and disposal activities on the project site. Summaries of federal and State laws and regulations related to hazardous materials management are presented below. California state law allows for certain hazardous materials regulatory programs, including those pertaining to oil wells, hazardous materials storage, and hazardous materials management, to be delegated to local agencies.

State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment.

4.5.3.1 Federal

Primary federal agencies with responsibility for hazardous materials management include the Environmental Protection Agency (EPA), Department of Labor (Federal Occupational Health and Safety Administration [OSHA]), Department of Transportation (DOT), and Nuclear Regulatory Commission (NRC). Major federal laws and issue areas include the following statutes (and regulations promulgated thereunder):

- Resources Conservation and Recovery Act (RCRA)
- Hazardous and Solid Waste Amendments Act (HSWA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- Emergency Planning and Community Right-to-Know (SARA Title III)

4.5.3.2 State

Primary State agencies with jurisdiction over hazardous chemical materials management are the California Environmental Protection Agency (Cal-EPA), the Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board (RWQCB). Other State agencies involved in hazardous materials management are the Department of Industrial Relations (State OSHA implementation [Cal/OSHA]), State Office of Emergency Services (OES—California Accidental Release Prevention implementation), California Air Resources Board (CARB), California Highway Patrol (CHP), State Office of Environmental Health Hazard Assessment (OEHHA—Proposition 65 implementation), and California Integrated Waste Management Board (CIWMB).

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Hazardous chemical and biohazardous materials management laws in California include the following statutes (and regulations promulgated there under):

*Section 4.5
Hazards &
Hazardous
Materials*

- Hazardous Waste Control Act
- Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65")
- Hazardous Substances Act
- Hazardous Waste Management Planning and Facility Siting ("Tanner Act")
- Hazardous Materials Storage and Emergency Response (including response to hazardous materials incidents)
- California Medical Waste Management Act

4.5.3.3 Local

The primary local agency, known as the Certified Unified Program Agency (CUPA), with responsibility for implementing federal and State laws and regulations pertaining to hazardous materials management is Santa Barbara County Fire Department, Fire Prevention Division, Hazardous Materials Unit. The Unified Program is the consolidation of six State environmental regulatory programs into one program under the authority of a CUPA. A CUPA is a local agency that has been certified by Cal EPA to implement the six state environmental programs within the local agency's jurisdiction. This program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994. The six consolidated programs are:

- Hazardous Materials Business Plan
- Risk Management and Prevention Plan
- Hazardous Waste (including Tiered Permitting)
- Underground Storage Tanks
- Above Ground Storage Tanks (including the Spill Prevention, Control, and Countermeasure [SPCC] rule)
- Uniform Fire Code (UFC) Article 80 Hazardous Materials Management Program (HMMP) and Hazardous Materials Information System (HMIS)

As the CUPA for the County of Santa Barbara, Santa Barbara County Fire Department, FPD, Hazardous Materials Unit maintains the records regarding location and status of hazardous materials sites in the County and administers programs that regulate and enforce the transport, use, storage, manufacturing, and remediation of hazardous materials, including operations of the Ellwood Marine Terminal. By designating a CUPA, Santa Barbara County has accurate and adequate information to pre-plan for emergencies and/or disasters and to plan for public and firefighter safety.

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

The University implements a Hazardous Materials Business Plan in cooperation with Santa Barbara County Fire Department FPD, Hazardous Materials Unit (the CUPA). The CUPA reviews the University's plan and performs site inspections on the campus. Thus, the University's hazardous materials programs are overseen by the CUPA.

4.5.4 Project Impacts and Mitigation

4.5.4.1 Methodology

The analysis in this section focuses on the use, generation, disposal, transport, or management of hazardous or potentially hazardous materials on the project site. Locations of potential hazards, including contamination and previous oil wells, were identified, remediation completed to date was reviewed, and contamination was compared with areas of proposed development to assess risks. The proposed project was compared to the clear, approach, and general airport traffic pattern zones identified in the Airport Land Use Plan to identify hazard issues. Disposal options, the probability for risk of upset, and the severity of consequences to people or property associated with the increased number persons was analyzed based on their proximity to use, handling, transport, and/or disposal or hazardous materials associated with implementation of the proposed project.

4.5.4.2 LRDP Policies

The Coastal Act Element of the LRDP included a range of policies and standards (herein termed LRDP policies) to demonstrate consistency of the LRDP, and projects implemented under the LRDP, with the statutory requirements of Chapter 3 of the Coastal Act (commencing with Section 30200). The following LRDP policies are relevant to Hazards and Hazardous Materials.

30232.1. The campus will continue its compliance with hazardous material and hazardous waste laws and regulations, and will maintain and strengthen its hazardous waste minimization program.

30232.2. The campus will maintain and upgrade its resources for chemical spill response in order to minimize the risk of any hazardous materials release or threatened release.

30232.3. The Environment, Health and Safety (EH&S) Office will appropriately dispose of hazardous materials.

30232.4. Waste minimization efforts by the EH&S Office will be strengthened, and particular consideration will be given to monitoring of hazardous materials storage and handling procedures, recycling (on-site and off-site) and source reduction goals and implementation procedures, and informational and educational programs.

30240(a)3. Mowing of the grassland in the Reserve is prohibited, except for fire protection, and shall be avoided prior to the time plants go to seed. Mowing shall not exceed the minimum necessary for adequate fire protection.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

30253.17. Maintain a minimum setback of 585 feet between the nearest Ellwood Marine Terminal storage tank and proposed residential structures.

*Section 4.5
Hazards &
Hazardous
Materials*

4.5.4.3 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on agricultural resources if it would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, create a significant hazard to the public or environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area
- For a project located within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

4.5.4.4 Effects Not Found to Be Significant

Threshold. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Although Open Space Areas on the West Campus are within 0.25 mile of the Devereux School, and the Sierra Madre Family Student Housing would be developed within 0.25 mile of the Isla Vista School, residential development, coastal access improvements, or management of open space would not result in any hazardous emissions. Therefore, the Initial Study (included in Appendix A of this EIR) determined that no effects associated with hazardous emissions within

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials 0.25 mile of an existing or proposed school would occur, and no additional analysis is required in this EIR.

Threshold. Would the project be within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area?

The campus is not located within the vicinity of a private airstrip. The Initial Study (included in Appendix A of this EIR) determined no impacts associated with implementation of the proposed project would occur with respect to safety hazards associated with any private airstrip, and no additional analysis is provided in this EIR.

4.5.4.5 Impacts and Mitigation Measures

Impact 4.5-1. Project implementation would not expose campus occupants or the public to a significant hazard due to the routine transport, use, disposal, or storage of hazardous materials. This impact would be *less-than-significant*.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could expose people to hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The proposed project would result in development of faculty housing on the North Parcel, development of family student housing on the Storke-Whittier Parcel, and coastal access improvements, and management of open space, including restoration of habitat. These various project components would not result in the routine handling, use, or disposal of hazardous materials, with the limited exception of standard construction and cleaning products, chlorine and filters used in the proposed pool on the faculty housing site, and the limited application of pesticides associated with landscaping and maintenance practices. No significant hazard to the public or the environment is anticipated through the routine transport, use, or disposal of hazardous materials associated with the construction or operation of residential development, coastal access improvements, or the management of open space areas.

Development of additional housing and coastal access improvements could result in potential exposure of residential occupants and the public to hazards associated with the routine transport, use, disposal, or storage of hazardous materials associated with the existing Ellwood Marine Terminal (or Venoco Lease), which stores oil extracted from inland wells and then periodically conveys the stored oil to an offshore barge for collection. Project implementation would not increase the amount of hazardous materials used on and transported to and from this campus facility; however, the conveyance of hydrocarbons via pipelines (generally located along the western edge of the University property) and subsequent storage in tanks (within the lease area) could pose a hazard to occupants of residential development and recreational users of Open Space areas. To date, there have been no recorded incidents of exposure of recreational users or residential occupants (of existing housing on the West Campus) to hazardous materials

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

from operation of or transport to and from the Ellwood Marine Terminal. In addition, the Venoco facility has implemented measures to reduce potential risk, as described in Section 4.5.2.5.2 above. Thus, no significant hazard to the public or the environment is anticipated from the continued routine operation of the Ellwood Marine Terminal. (Potential hazards associated with an accidental release of hazardous materials from the terminal are addressed in Impact 4.5-6 below.)

Federal and State laws and regulations strictly regulate generation, handling, transportation, and disposal of hazardous materials and waste, and these requirements apply to operations of the Ellwood Marine Terminal, and compliance is overseen by the County of Santa Barbara. The campus has programs in place to ensure compliance with these applicable laws and regulations. The University maintains a Hazardous Materials Business Plan with the Santa Barbara County Fire Department Fire Prevention Division (FPD) for the use, inventory, and emergency response planning and training associated with hazardous materials in the project area. Consistent with LRDP policy 30232.2, the campus also provides emergency clean-up procedures if an accidental exposure or spill occurs.

Consistent with LRDP Policy 30232.4, the University will continue to strengthen waste minimization efforts by the EH&S Office, with particular consideration will be given to monitoring or hazardous materials storage and handling procedures, recycling (on-site and off-site) and source reduction goals and implementation procedures, and informational and educational programs.

The campus would continue to implement health and safety plans, programs, and procedures related to the use, storage, disposal, or transportation of hazardous materials that outline safe handling practices, provide for emergency clean-up procedures if an accidental exposure occurs, and designate safe disposal practices, all in compliance with federal and State laws and regulations.

With continued compliance with applicable laws and regulations and implementation of existing hazardous materials programs, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be *less than significant*.

Impact 4.5-2. Project construction could expose construction workers to health and safety risks through earthmoving activities in areas with potentially contaminated soils or groundwater. With implementation of identified mitigation measures, this impact would be reduced to *less-than-significant* levels.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could expose construction workers to health and safety risks associated with earthmoving and ground disturbance in areas with potentially contaminated soils or groundwater.

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

Development of faculty housing would result in grading of approximately 27 acres of land on the North Parcel. Development of the Sierra Madre Family Student Housing complex would result in grading of approximately 13 acres of land (10 acres on the Storke-Whittier Parcel and 3 acres of existing lawn area adjacent to the West Campus Family Student Housing complex). Improvement of approximately 8.175 miles of existing trails could result in grading of approximately 6.2 acres of land along the trails. Development of public parking at up to four locations would result in grading of approximately 0.6 acre of land (total for all four locations, including restroom replacement at Coal Oil Point). Thus, residential development and coastal access improvements could result in grading of up to 46.8 acres of land.

Restoration of habitat and management of open space resources could also result in ground disturbance in some locations, however, it is anticipated that such disturbance would generally be limited to small discontinuous areas, would only involve use of hand tools, and would be conducted in accordance with the goals and objectives of the Open Space Plan. Because of the degraded state of the South Parcel, including large areas of exposed soils that are subject to erosion, restoration of those areas could require erosion control measures that could include grading to reduce topographic variation, which could require the use of heavy construction equipment in some areas.

Disturbance of soils could result in the exposure of campus workers, residential occupants, or the recreational users of Open Space area to health or safety risks if contaminated soils (including contamination from historic petroleum operations) and/or groundwater is encountered during construction or maintenance activities. Exposure to contaminated soil or groundwater could occur from: (1) potential residual contaminants in areas previously remediated within a portion of the proposed Coal Oil Point Reserve expansion area, (2) contaminated areas adjacent to Ellwood Marine Terminal (refer to Figure 4.5-1); or (3) unknown contaminants which have not previously been identified. It is assumed that any residual contaminants associated with previously remediated areas would be minimal. No coastal access improvements, or open space management actions would occur within the Ellwood Marine Terminal, however, such activities could occur in proximity to the terminal, and thus contaminated soils and groundwater could be present at locations in proximity to the terminal. Given the historic uses of the site, including extensive petroleum recovery operations, the potential exists for hazardous materials to be encountered within the entire area subject to residential development, coastal access improvements, and open space management activities.

Exposure to hazardous materials during construction activities could occur through any of the following:

- Direct dermal contact with hazardous materials
- Incidental ingestion of hazardous materials (usually due to improper hygiene, when workers fail to wash their hands before eating, drinking, or smoking)
- Inhalation of airborne dust released from dried hazardous materials

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

Environmental concerns at the project site primarily stem from previous oil production activities and former structures. As is typical of former oil field properties, construction activities involving grading and excavation could expose workers to contaminated soils and other hazards associated with abandoned oil wells. The standard conditions of approval for the University include compliance with all applicable State and local regulations pertaining to abandonment of oil wells and remediation of associated hazards.

The possibility would remain for unidentified soil contamination to be encountered during grading, excavation, or ground disturbance from trail improvement activities associated with the proposed project. If any unidentified sources of contamination are encountered during grading or excavation, the removal activities required could pose health and safety risks, such as the exposure of workers, materials handling personnel, and the public to tank contents, hazardous materials, or vapors. Such contamination could cause various short-term or long-term adverse health effects in persons exposed to the hazardous substances. In addition, exposure to contamination could occur if these contaminants migrated from the contaminated zone to surrounding areas either before or after the surrounding areas were developed, or if contaminated zones were disturbed by future development at the contaminated location. The potential exposure of construction personnel or the public to remnant hazardous substances from former on-site uses and facilities at the project site exists. If exposed to hazardous substances, this would result in a significant hazard to the public, and impacts would be potentially significant.

If required during construction activities, dewatering could result in the withdrawal of contaminated groundwater. If the groundwater contains contaminants above regulatory levels, the water could present a hazard to people or the environment unless properly managed. However, the University requires that contractors implement best management practices during construction dewatering to avoid exposure of campus occupants or construction workers to potentially contaminated groundwater, such as groundwater testing, containment of contaminated groundwater in oil wells for subsequent treatment and/or disposal, and/or the provision of release response information. In addition, subject to Section 13263 of the California Water Code, the Regional Water Quality Control Board issues Waste Discharge Requirements to control discharges (including groundwater) to land or water. In the unlikely event that contaminated groundwater is discovered during construction activities, exposure of campus occupants or construction workers to this contamination would result in a significant hazard to the public, and impacts would be potentially significant.

In order to address the potential for encountering unidentified contamination, the following Mitigation Measure (MM) would be implemented:

MM 4.5-2. If contaminated soil and/or groundwater is encountered during excavation and/or grading activities,

- i) The construction contractor(s) shall stop work and immediately inform the EH&S.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

- ii) An on-site assessment shall be conducted to determine if the discovered materials pose a significant risk to the public or construction workers.
- iii) If the materials are determined to pose such a risk, a remediation plan shall be prepared and submitted to the EH&S to comply with all federal and State regulations necessary to clean and/or remove the contaminated soil and/or groundwater.
- iv) Soil remediation methods could include, but are not necessarily limited to, excavation and on-site treatment, excavation and off-site treatment or disposal, and/or treatment without excavation.
- v) Remediation alternatives for cleanup of contaminated groundwater could include, but are not necessarily limited to, on-site treatment, extraction and off-site treatment, and/or disposal.
- vi) The construction schedule shall be modified or delayed to ensure that construction will not inhibit remediation activities and will not expose the public or construction workers to significant risks associated with hazardous conditions.

Consistent with applicable statutes, ongoing University procedures for handling hazardous wastes would be extended to all new development associated with the proposed project. In addition, MM 4.5-2 would require continued implementation of health and safety plans, programs, and procedures related to the use, storage, disposal, or transportation of hazardous materials related to accidental exposure during construction activities.

With implementation of MM 4.5-2, the proposed project would not expose construction workers or the environment to a significant hazard through the routine transport, use, or disposal of hazardous materials, and this impact would be reduced to *less-than-significant* levels.

Impact 4.5-3. Development of the proposed project could expose construction workers, occupants of new residential structures and recreational users of Open Space Areas to the naturally occurring hazards of Radon-222 and natural gas and oil seeps. With implementation of the identified mitigation measures, this impact would be reduced to *less-than-significant* levels.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could expose construction workers, occupants of new residential structures and recreational users of Open Space areas to the naturally occurring hazards of Radon-222, natural gas, and oil seeps.

Implementation of the proposed project would result in the development of faculty housing facilities, student housing facilities, and the conversion of existing undeveloped land into sites of formalized recreational opportunities, designated sensitive areas, and outdoor educational forums. The development of housing for faculty and student families would accommodate existing faculty and students by providing housing for 236 faculty and their families and 151 married students and their families. The development of these components could potentially

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

place persons in closer proximity during construction and occupancy to the naturally occurring hazards of Radon-222 and natural gas and oil seeps than currently exists.

*Section 4.5
Hazards &
Hazardous
Materials*

Radon-222 is a gas commonly found in certain rocks and soils in Santa Barbara County and is harmful to human health. Radon is most common in Rincon Formation siltstone and Rincon-derived soils. Based on the existing regional geologic mapping, no Rincon Fm rocks underlie the project area, thus the hazard of radon gas on the project site is low; however, given that some of the estuarine soils in the Devereux Slough area were derived from erosion of Rincon Fm rocks, it is possible that radon gas is present in the area.

Natural gas and oil are expelled from rocks both onshore and offshore in Santa Barbara County. Some of the largest known natural oil and gas seeps in the world occur offshore Coal Oil Point (Quigley et al., 1999). Tar seeps do not present a hazard, but gas seeps (including methane and hydrogen sulfide) may be toxic and are flammable, presenting a potential hazard to the public.

Residential development could result in the creation of a significant hazard to future residents from natural gas and oil seeps. Development of faculty housing on the North Parcel would result in residential development in an area that contains an historic oil well and associated sump, thus there is a possibility that natural gas and oil seeps occur in the project area as well. These geohazards have the potential to result in a hazard to future residents of this development. However, in conjunction with residential development and open space improvements and consistent with LRDP policies 30232.1, 30232.2, and 30232.3, the campus will continue to implement an array of campus EH&S programs and other regulations related to hazardous materials in compliance with federal and State hazardous materials laws. In addition, implementation of a buffer zone along any natural seeps that may be close to structures or residences and abidance of MM 4.5-2 in the event unanticipated contamination is discovered would ensure safety of residents located near them.

The proposed project would result in creation of Nature Park areas with improvements such as trails and educational amenities within the South Parcel and trails and beach access within the West Campus Bluffs area. Development of the South Parcel as a Nature Park could result in hazards to future recreational seekers due to possible natural gas and oil seeps; however, no known oil wells are located on this site, and no known oils or gas seeps have been identified. Development of recreational access and improvements in the West Campus Bluffs would be located in an area with an identified historic oil well and associated sump (located within the western portion of this area), thus there is a possibility that natural gas and oil seeps could occur in portions of the project area, posing a hazard to future recreational users of this development. However, public use would be limited to formalized trails, access, and improvements, and project siting and design would avoid natural seeps, if any. Limitation of access to formalized trails and access points would reduce the potential for the public contact with any potential natural gas and oil seeps.

As discussed above, the possibility of radon gas being present on the site is considered low. Because radon is a gas, it can migrate through soil and cracks in building slabs or basement walls

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

and concentrate in a building's indoor air. As discussed in the setting, inhalation of radon gas can cause harmful health effects, including an increased risk of developing lung cancer. The average concentration of radon in American homes is about 1.3 picocuries per liter and the average concentration in outdoor air is about 0.4 picocuries per liter. The U.S. EPA recommends that individuals avoid long-term exposures to radon concentrations above 4 picocuries per liter (CGS 2003). Should radon gas be present, it would present significant health risks to residents of proposed development due to its carcinogenic effects. MM 4.5-3 would be required in order to identify the presence of radon gas.

MM 4.5-3. Prior to construction, field testing for radon shall be performed in areas where ground disturbance is proposed on the North Parcel and Storke-Whittier Site. If radon is identified, then radon control systems such as radon vent pipes or radon vent fans shall be incorporated into building construction in order to ensure radon concentrations in the home remains below EPA-recommended levels of 4 picocuries per liter.

Implementation of MM 4.5-3 would ensure identification of radon gas in areas of proposed development, if it exists, and incorporation of radon control systems to minimize risks from the gas, if present. In addition, implementation of MM 4.5-2 would ensure appropriate steps are taken in the event that radon gas or natural oil or gas seeps are encountered during construction.

With implementation of MM 4.5-2 and 4.5-3, the proposed project would not result in hazards to the public or the environment from naturally occurring radon gas or natural gas or oil seeps, and this impact would be reduced to a *less-than-significant* level.

Impact 4.5-4. Project construction could expose construction workers and the public to potential health risks associated with abandoned oil wells. With implementation of the identified mitigation measures, this impact would be reduced to *less-than-significant* levels.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, would involve earthmoving and ground disturbance, which could expose construction workers and the public to potential health risks associated with abandoned oil wells.

As discussed in the setting, several known former oil wells are located within the project area. However, because of the widespread extent of historical petroleum recovery operations throughout the project area, the potential exists for undocumented abandoned wells to be encountered during construction activities. Construction activities, in particular earthmoving and grading of the North Parcel and the Storke-Whittier area, would result in construction over known wells and could also result in the discovery of an abandoned oil well. Implementation of Open Space improvements, including trail improvements, trail closures, access improvements and habitat restoration activities would generally require less ground disturbance (than residential construction) and, therefore, would be less likely to encounter abandoned oil wells.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

Construction over former oil wells could pose health and safety risks. Risks would include exposure of workers, well handling personnel, and the public to well contents or vapors, and contaminated soil associated with former well operations. No areas of contamination from former oil wells have been identified on the North Parcel or Storke-Whittier site. In addition, portions of the Open Space Plan include soils that have been contaminated by historic activities, particularly in the area surrounding the Ellwood Marine Terminal. Some of the soils surrounding the Ellwood Marine Terminal have been remediated, although contamination remains in other areas. The areas surrounding the EMT are not slated for residential development under the proposed project; however, trail improvements proposed for the areas surrounding the EMT could occur in areas where contamination associated with oil wells exists. Trail improvements/formalization and closures could involve minor excavation/extent of disturbance involving the installation of fences, removal of rocks, and removal of poor soils. Although only shallow excavation is anticipated, conservative approach entails mitigating for potential risks associated with subsurface oil and gas.

The potential risks, if any, would be reduced by implementation of MM 4.5-4(a) and 4.5-4(b) which require that the uncovering of an oil well as well as cleanup of sites contaminated by oil wells be managed according to established guidelines for re-abandonment and closure of oil wells.

MM 4.5-4(a). In the event that abandoned oil wells are uncovered and/or disturbed during construction, construction activities shall cease in the immediate vicinity immediately and EH&S shall be contacted. Remedial capping operations would be required to re-cap the affected wells to current Department of Conservation specifications. Depending on the nature of soil contamination, if any, other appropriate agencies shall be notified (e.g., Santa Barbara County Fire Department FPD). The University shall ensure proper implementation of the reabandonment operation in compliance with all applicable laws and regulations.

MM 4.5-4(b). Following well discovery, a soil sampling strategy shall be prepared and implemented to characterize potential contamination from the well's former oil activities. Sampling locations shall be identified based upon historical review of on-site uses, locations of ground disturbance from either residential development or trail or coastal access improvements, and consultation with the County of Santa Barbara FPD. Once soils have been characterized, remediation, where necessary, shall be completed in conformance with County standards. County FPD shall review and approve closure reports for remediation plans upon completion of remediation activities and prior to ground disturbance.

Implementation of MM 4.5-4(a) and MM 4.5-4(b) would ensure site characterization, well reabandonment, and procedures in the event of discovery of oil wells.

With implementation of MM 4.5-4(a) and MM 4.5-4(b), the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and this impact would be reduced to a *less-than-significant* level.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

Impact 4.5-5. Recreational use of Open Space Areas could expose the public to potential health risks in the event of the accidental discovery of an abandoned oil well. With implementation of the identified mitigation measures, this impact would be reduced to a *less-than-significant* level.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could increase recreational use of Open Space areas, which could expose the public to potential health risks in the event of the accidental discovery of an abandoned oil well and the resultant exposure to petroleum or hydrocarbon substances.

The proposed project would result in improvement of existing undeveloped lands, and the creation of improved open space areas (such as Nature Parks on the South Parcel and West Campus Bluffs and improved beach access). Although no known oil wells are located within the areas subject to coastal access improvements, the potential exists for hikers, bicyclists, equestrians or other uses to encounter unknown abandoned oil wells, such as in off-trail areas, on the beaches, or areas that are closed to protect sensitive resources. However, the potential for the accidental discovery of an abandoned oil well by recreational users is considered remote.

If abandoned oil wells are encountered by recreational users, the campus EH&S would comply with hazardous material and hazardous waste laws and regulations, consistent with LRDP policy 30232.1, related to operation of an array of campus environment, health, and safety programs. In addition, implementation of MM 4.5-4(a) and MM 4.5-4(b) would ensure site characterization, well reabandonment (which would reduce future risks associated with recreational encounters with such wells), and procedures for accidental release of petroleum or hydrocarbon substances associated with unanticipated well discovery.

With implementation of MM 4.5-4(a) and 4.5-4(b), the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the accidental discovery of abandoned oil wells, and this impact would be reduced to a *less-than-significant* level.

Impact 4.5-6. Project implementation could expose the public to potential health risks in the event of an accident or accidental release from the Ellwood Marine Terminal. With implementation of the identified mitigation measure, this impact would be reduced to a *less-than-significant* level.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could expose the public to potential health risks in the event of an accident or accidental release from the Ellwood Marine Terminal. Therefore, this discussion focuses on the potential nature and magnitude of risks associated with the accidental release of hazardous materials typically used at the Ellwood Marine Terminal.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

Since the existing tanks at the Ellwood Marine Terminal would continue to be used for the storage of hydrocarbon materials such as petroleum and oil, spills or accidental release of petroleum products may potentially occur in proximity to the proposed residential and recreational uses. These liquids and their associated vapors are flammable in nature, and there is an inherent risk for a fire or explosion in the event of an upset condition, which could lead to a release of chemicals into the environment. The results of a Quantitative Risk Assessment (QRA) of Platform Holly and the Ellwood Marine Terminal Facility concluded that the main risk to the population from the Ellwood Facility is due to the separation and storage of liquefied petroleum gas (LPG) and natural gas liquids (NGL). These gas liquids produce large flame jets or boiling liquid expanding vapor explosions (BLEVEs) that if released can affect a large area. The toxic risk was considered unacceptable based upon the County's Environmental Thresholds for public safety. A number of risk reducing measures were developed to reduce the overall risk from the Ellwood Facility. With the implementation of these measures, the public risk from the Ellwood Facility would be considered acceptable. In addition, Platform Holly does not store large quantities of flammable gas liquids and, therefore, has smaller hazard zones than the Ellwood Facility.

Major hazardous materials accidents are extremely infrequent, and additional emergency response capabilities are not anticipated to be necessary, since no increase in the number of incidents that could result at the Ellwood Marine Terminal would result from project implementation. Since residential development would occur on the North Parcel and Storke-Whittier Parcel, in greater proximity to the EMT than existing residential developments, the proposed project increases the number of persons that would be exposed potential risks in the event of an accident or fire at the EMT.

MM 4.5-6. Per LRDP policy 30253.17, should housing development occur south of the Ocean Meadows Golf Course, a minimum setback of 585 feet between the nearest Ellwood Marine Terminal storage tank and any ~~proposed~~ residential structures shall be maintained.

Incorporation of the required setback would reduce potential risks associated with a fire or accident to an acceptable level of risk, based on foreseeable accident scenarios. In addition, the campus would comply with federal and State laws and regulations regarding hazardous materials by continuing to implement health and safety plans, programs, and procedures related to the use, storage, disposal, or transportation of hazardous materials, and provide for emergency clean-up response procedures to minimize the risk if an accidental exposure, release, or spill occurs.

With implementation of MM 4.5-6, implementation of the proposed project would not expose the public to a significant hazard from foreseeable upset or accident conditions at the Ellwood Marine Terminal involving the release of hazardous materials into the environment, and this impact would be reduced to a *less-than-significant* level.

Impact 4.5-7. Project implementation would not result in construction on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

Section 4.5 65962.5, and, as a result, would not create a significant hazard to the public or environment.
Hazards & ~~There would be no potential impact~~ No impact would result.
Hazardous
Materials

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, would not result in construction on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would not create a significant hazard to the public or environment.

Based upon review of federal, State, and County hazardous waste lists and databases pursuant to Government Code Section 65962.5, one known hazardous materials site (the Ellwood Marine Terminal, or Venoco lease site) exists on the project site. The lists and databases include, but are not limited to, Federal ASTM standard known as the Resource Conservation and Recovery Act database (RCRIS-SQG list), federal ASTM supplemental known as the Facility Index System (FINDS list), and State ASTM standards known as the Department of Toxic Substances Control Hazardous Waste and Substances Site List (Cortese List) and the California Hazardous Material Incident Report System (CHMIRS list). These lists and databases contain information regarding asbestos waste, underground storage tanks, photoprocessing chemicals, PCBs, unspecified solvent and organic mixture wastes, unspecified aqueous solution, metal sludge, other hazardous materials monitored by statute or regulation, known releases of hazardous substances, locations where radioactive or other hazardous materials are stored or second-hand, facility information, and “pointers” to other sources of information that contain more detail. No portion of the project site was identified on the Cortese or CHMIRS lists; however, the Venoco Lease property was identified on the RCRIS-SQG list as well as the FINDS list. (EDR, 2003)

The proposed project would result in development of faculty housing on the North Parcel and family student housing on the Storke-Whittier Parcel, and open space improvements on the South Parcel, the West Campus Mesa, West Campus Bluffs, Coal Oil Point, and the Coal Oil Point Reserve. No residential development, open space improvements, or other construction activities would occur within the Ellwood Marine Terminal area. Thus, the proposed project would not involve construction on any site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and there would be *no potential impact*.

Impacts associated with potential soil or groundwater contamination are addressed in Impacts 4.5-2 and 4.5-3 above. Impacts associated with abandoned oil wells in the project area are addressed in Impacts 4.5-4 and 4-5.5 above. Impacts associated with risk of upset from the existing Ellwood Marine Terminal operations are addressed in Impact 4.5-6 above.

Impact 4.5-8. Project implementation would not result in a significant safety hazard for people residing or working in the project area associated with proximity to the Santa Barbara Municipal Airport. This impact would be *less-than-significant*.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration,

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

would not result in a significant safety hazard for people residing or working in the project area associated with proximity to the Santa Barbara Municipal Airport.

*Section 4.5
Hazards &
Hazardous
Materials*

Implementation of the proposed project would result in the development of faculty and student family housing, and open space improvements on undeveloped land within three miles west/southwest of the Santa Barbara Municipal Airport. The faculty housing site would be approximately 1.5 miles from the end of existing Runway 7/25 and 1.4 miles from the future terminus of the runway. The project site is entirely within the Airport Influence Area (AIA) and partially within the Approach Zone of the Santa Barbara Municipal Airport. A detailed discussion of land use compatibility of the proposed project with the airport is provided in section 4.6, Land Use, Impact 4.6-1. Location of portions of the project area within the existing and future Approach Zone of Santa Barbara Municipal Airport may represent a safety hazards to residents of proposed housing.

The proposed project would result in development of 236 faculty housing units within the North Parcel of North Campus. This portion of the proposed project would be located within the existing and future Approach Zone of the Santa Barbara Municipal Airport. Faculty housing would include single-family and multi-family residential development.

Single-family construction of 60 units would not be considered a safety issue to the Airport Land Use Commission (ALUC). This use is considered a compatible land use from a safety standpoint within the Approach Zone, and is proposed on the easternmost portion of the North Parcel site, which is most proximate to the one-mile marker from the end of Runway 7.

The project proposes construction of 176 multi-family units just west of the proposed single-family homes. According to the land use guidelines of the Airport Land Use Plan (ALUP), development on the North Parcel could create a hazard to future residents of this development through location of multi-family housing on a site within the Approach Zone. Multi-family housing is not considered a compatible land use from a safety standpoint within the Approach Zone, according to the ALUP; however, the proposed project does not require ALUP approval.

The land use compatibility guidelines in the ALUP are based upon safety concerns. The guidelines are intended to limit concentrations of a large number of persons in the area. Due to the higher density of persons in multi-family units, this use would result in a larger concentration of persons on site. Thus, a larger number of persons would be exposed to potential hazards associated with aircraft overflight. However, the use of the residential units would not result in a hazard in and of itself. Rather, the concentration of persons on site resulting from higher density uses would expose more persons to potential hazards, should an incident occur, than would single-family construction. The probability that an incident would occur at the airport is low. There is a low rate of airplane accidents nationwide and strict compliance with all FAA regulations related to aircraft and pilot safety, such as pilot training, aircraft inspection and certification, and air traffic control, are intended to assure the continued safety of aircraft operations. Therefore, while the proposed project would not conform to land uses identified in

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

the ALUP for safety, the incremental increased risk from location multi-family units within the Approach Zone compared to single-family units would not result in a significant safety hazard for people residing in the area.

The proposed Sierra Madre Housing and Open Space Areas would be located within the AIA. Location within the AIA would require notification of the annoyances or inconveniences (i.e., noise, aircraft overflight) associated with proximity to Airport Operations. However, no safety constraints have been identified. Therefore, the Sierra Madre Housing and the Open Space Plan would not result in risks due to their location within proximity to the Santa Barbara Airport.

The University also maintains an Emergency Operations Plan, which is designed with the intent to assist the University in preparation for, and response to, all levels of emergencies with minimal impact.

With continued implementation of public safety and emergency operation procedures, proposed project would not result in a significant safety hazard for people residing or working in the project area associated with proximity to the Santa Barbara Municipal Airport, and this impact would be *less-than-significant*.

Impact 4.5-9. Project implementation could impair implementation of, or physically interfere with, an adopted emergency response or emergency evacuation plan. With implementation of identified mitigation measures, this impact would be reduced to a less-than-significant level.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could impair implementation of, or physically interfere with, an adopted emergency response or emergency evacuation plan.

Construction and operation activities associated with development of the proposed project could potentially affect emergency response or evacuation plans due to temporary construction barricades or other obstructions that could impede emergency access on campus. During a response, the primary emergency access point to the South Parcel is the Venoco access road, along with Phelps Road through the Ocean Meadows Golf Course. Emergency access to the West Campus is via Devereux Road. Brush trucks can access the beach via the two main beach access points at Ellwood (with helicopter and marine rescue operations available as needed). Fire crews would utilize formalized trails to reach fires and to provide emergency response, including the provision of water for fire suppression, as there are no water hookups in the interior of the Open Space Areas. The primary emergency access point to the Sierra Madre student housing development would be Storke Road and to the North Parcel faculty housing development would be Storke Road via Phelps Road. In addition, vehicles can reach the North Parcel from Cannon Green via Hollister Avenue.

Evacuation traffic can flow west and north, away from the North and West Campuses by turning east onto Phelps Road and then north onto Storke Road or by turning north onto Cannon Green Drive and then west onto Hollister Avenue. However, the primary emergency

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

exit for the West and North Campuses would be north on Storke Road. Direction to available exits is given by the Police or through the Emergency Operations Department, if it is open. Parking services would also be utilized to assist in directing traffic along with their new illuminated sign boards for information and directions.

**Section 4.5
Hazards &
Hazardous
Materials**

The University maintains an Emergency Operations Plan (EOP) that is disseminated campuswide, outlines procedures for all campus staff, students, and visitors to follow in case of an emergency, and is intended to assist the University preparation and response to all levels of emergencies with minimal impact. In addition, consistent with LRDP policies 30232.1, 30232.2, and 30232.3, the campus would assure continued implementation of an array of campus EH&S programs related to public safety and emergency procedures. However, the following Mitigation Measures would be required to ensure that the proposed development would not impair implementation of, or physically interfere with, emergency response and evacuation efforts.

MM 4.5-9(a). Ongoing coordination between the UCPD, Santa Barbara County Fire Department, and the University shall ensure site access through roadway or travel lane closure coordination with emergency response personnel.

MM 4.5-9(b). (i) The University shall review and revise the EOP to address potential emergencies and evacuations associated with the proposed developments.

(ii) The University shall continue to implement the Emergency Operations Plan (EOP) to ensure that multiple emergency access or evacuation routes are provided to ensure that in the event one roadway or travel land is temporarily blocked, another may be utilized.

Implementation of MM 4.5-9(a) and MM 4.5-9(b) would provide for multiple emergency access or evacuation routes (revising the EOP as necessary) and coordinating roadway or travel lane closures with emergency response personnel.

With implementation of MM 4.5-9(a) and MM 4.5-9(b), implementation of the proposed project would not impair implementation of, or physically interfere with, an adopted emergency response or emergency evacuation plan, and this impact would be reduced to a less-than-significant level.

Impact 4.5-10. Project implementation could expose people or structures to a risk of loss, injury, or death involving wildland fires. With implementation of identified mitigation measures, this impact would be reduced to *less-than-significant* levels.

Amendment of the LRDP to permit residential development on the North Campus, coastal access improvements, and open space management activities, including habitat restoration, could expose people or structures to a risk of loss, injury, or death involving wildland fires.

Additional development of the proposed project could increase exposure of people and structures to a risk of loss, injury, or death involving wildland fires due to its proximity to

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

Section 4.5
Hazards &
Hazardous
Materials

undeveloped land. Most of the area under consideration for development is generally considered a light fuel area with annual grasses, and as such is less vulnerable to large conflagrations. However, as discussed in the existing setting, eucalyptus trees adjacent to the North Campus are a source of fuel for wildland fires, and fuel management of these eucalyptus stands has been limited due to biological sensitivity of the area. The proposed project would place additional residential units in close proximity to the eucalyptus stands, a known fire hazard. If a wildland fire were to occur, the proposed project would increase the number of persons and residences threatened by such an event.

The County Fire Department utilizes existing trails, including bike and foot trails, for access to wildland fires and for emergency response. Trails are considered by the County Fire Department to make good firebreaks. The expansion of the trail system, as part of the proposed project, could therefore improve the ability of the County to respond to a fire and reduce the potential hazard of wildland fires to people or structures. Water used in fighting fires is brought on site by response vehicles. The County's aerial fire combat program is organized for water drops; use of aerial fire retardants is not normally considered necessary in the project's coastal setting, nor is there any history of such use in the project area, but retardants could be used if absolutely necessary and the US Forest Service is equipped for retardants.

The project site would be subject to fuel modification guidelines presented in the Open Space Areas, which would substantially minimize the potential for both on- and off-site fires to impact the project site. The combination of vegetation removal, setbacks, fuel modification zones, and introduction of paved surfaces and formalized trails where none currently exist (improving access) would greatly reduce the movement of a potential fire from or to the project site. However, human-influenced ignition sources at the project site (i.e., discarded cigarettes, arson, fireworks, etc.) are common in any urbanized area and park-like open areas utilized for recreation. The permanent introductions of these ignition sources, as well as additional residents and recreational visitors, into an undeveloped area would represent an increase in risk associated with wildland fires, which would constitute a potentially significant impact. The following Mitigation Measures would be required to address potential wildland fire risks:

MM 4.5-10(a). Landscaping around development areas adjacent to open space shall minimize dense vegetation immediately adjacent to structural development. Specifically, 12 to 18 inches of bare ground shall be kept between structures and grasses of other vegetation.

MM 4.5-10(b). Mowing of any grassland adjacent to residential development on the North and West Campuses shall meet minimum standards for fire protection safety established by the County of Santa Barbara.

MM 4.5-10(c). In order to maintain a firebreak between the undeveloped areas and structures, fuel management setbacks shall be 10 feet from each side of a road and 30 feet from structures.

MM 4.5-10(d). Dead and dying tree limbs, especially those that overhang the roof of any structures, and all vegetation within 10 feet of any chimney shall be removed.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

MM 4.5-10(e). Grass and low-to-ground vegetation (ivy, vines, weeds) in proximity to structures shall be kept no more than six inches high.

*Section 4.5
Hazards &
Hazardous
Materials*

MM 4.5-10(f). Design of residential structures adjacent to open areas with native vegetation shall incorporate appropriate fire suppression systems into building design, which may include fire sprinkler systems, tempered or multiple pane windows, and fire-retardant materials for roofs, exterior walls, and siding.

Implementation of MM 4.5-10(a) through 4.5-10(f) would reduce potential risks associated with wildland fires through landscaping techniques, adherence to fuel management procedures, and inclusion of appropriate fire suppression systems into building design.

With implementation of MM 4.5-10(a) through 4.5-10(f), project implementation would not expose people or structures to a risk of loss, injury, or death involving wildland fires, and this impact would be reduced to a *less-than-significant* level.

4.5.5 Cumulative Impacts

The geographic context for the analysis of hazards and hazardous materials impacts is the County of Santa Barbara, including all cumulative growth therein, as represented by full implementation of the County of Santa Barbara General Plan, the City of Santa Barbara General Plan, the UCSB Long Range Development Plan, and all approved or potential projects identified in Table 4.1-1. As with geologic impacts, hazards and hazardous materials impacts are usually site-specific and generally do not combine with similar effects that could occur with other projects throughout the County. Further, laws and regulations that apply to hazards and hazardous materials are extensive and quite stringent, which generally serves to mitigate any potential project-specific and/or cumulative impacts that could result.

It is anticipated that future growth in the County will result in an incremental increase in the amount of hazardous materials used, treated, transported, and disposed areawide. Although each development site has potentially unique hazardous materials considerations, it is expected that future growth will generally comply with the range of federal and State statutes and regulations applicable to hazardous materials, and will be subject to existing and future programs of enforcement by the appropriate local regulatory agencies. For these reasons, cumulative impacts resulting from the use, transport, and disposal of hazardous materials, or risk of upset from a release of hazardous materials, would be less than significant.

As discussed in Impacts 4.5-1, 4.5-5, and 4.5-6, the proposed project will not result in significant public hazards as a result of hazardous materials use, transport, or disposal, or as a result of accidental release of hazardous materials. While the University will continue to use varying amounts and types of hazardous materials (including chemical and bio-hazardous materials) in day-to-day activities and operations, the campus will continue to comply with all applicable laws and regulations concerning the use, storage, transportation, and/or exposure of hazardous materials, as well as with existing on-campus programs, practices, and procedures as required by

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

LRDP policy 30232.1, to reduce potential impacts for each project under the University's jurisdiction. Consequently, the contribution of the proposed project to cumulative impacts is not cumulatively considerable, and the impact is less than significant.

It is possible that a number of the related joint proposal projects and other future development in the County will involve significant construction activity, which could subject construction workers to health or safety risks through exposure to hazardous materials, such as Radon-222 and/or contaminants found in abandoned oil wells. It is anticipated that future development projects will adhere to the applicable federal and State requirements that regulate worker safety and exposure. As a result, cumulative impacts would be less than significant. As discussed under Impacts 4.5-3 and 4.5-4, the University will also continue to adhere to these applicable regulations, as well as established campus programs and practices. In addition, as required by MM 4.5-3, field testing for radon will be performed in areas where ground disturbance is proposed on the North Parcel and Storke-Whittier sites, which are the sites that contain the Rincon Formation siltstone and Rincon-derived soils that could contain Radon-222. If radon is identified, radon control systems will be incorporated into building construction in order to ensure that radon concentrations remain below EPA-recommended levels. Similarly, as required by MM 4.5-4(a) through 4.5-4(c), a program of measures will be implemented to reduce impacts associated with the discovery (accidental or otherwise) of abandoned oil wells, including soil sampling to characterize potential contamination, consultation with DOGGR to determine if capping or recapping of the wells is necessary, and cessation of construction activities if an unanticipated well is discovered. As a result, the contribution of the proposed project to cumulative impacts is not cumulatively considerable, and the impact is less than significant.

It is further possible that a number of the related joint proposal projects and other future development in the County could expose residents and construction workers to contaminated soil or groundwater. It is anticipated that future development projects will adhere to the applicable federal and State laws and regulations that govern abandoned oil wells and pesticide use, as well as requirements applicable to disposal and cleanup of soil or groundwater contaminants. As a result, cumulative impacts would be less than significant. As discussed under Impacts 4.5-3 and 4.5-4, the University will continue to adhere to these applicable regulations, as well as established campus programs and practices. Although there is no known soil or groundwater contamination on the West or North campus, in the event that soil or groundwater contamination is discovered, the University will continue to adhere to these regulations, as well as established campus programs and practices, as required by LRDP policy 30232.1. As a result, the proposed project's contribution to cumulative impacts associated with exposure to contaminated soil or groundwater would not be cumulatively considerable and a less-than-significant impact would result.

Future development in the County, including the related joint proposal projects, may be located on or near a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. It is anticipated that future development will comply with applicable laws and regulations pertaining to hazardous wastes, and that risks associated with identified hazardous materials sites would be eliminated or reduced through proper handling

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

**Section 4.5
Hazards &
Hazardous
Materials**

techniques, disposal practices, and/or clean-up procedures. Development applications for projects affected by hazardous materials on identified sites would likely be denied by the County of Santa Barbara if adequate cleanup or treatment is not undertaken or feasible. Therefore, assuming compliance with applicable laws and regulations or project denial in the event that such compliance is not achieved, cumulative impacts on the public or environment associated with development on or near hazardous materials sites would be less than significant. As discussed under Impact 4.6-7, there is one known hazardous materials site (the Ellwood Marine Terminal, or Venoco lease site) listed pursuant to Government Code Section 65962.5 on the project site. The Ellwood Marine Terminal would continue to be used for the storage of hydrocarbon materials, such as petroleum and oil, and spills or accidental release of these products could occur, which could affect the health or safety of the nearby population. However, implementation of MM 4.2-1(a) would ensure that health and safety plans would continue to be prepared and followed, and all programs, procedures, and practices related to the safe use, storage, disposal, or transportation would continue to be implemented, which would collectively ensure that impacts associated with the ongoing use of the facility are avoided or reduced to less-than-significant levels.

All previously contaminated soils on the North and West Campuses have been remediated and properly closed. All remaining oil wells on campus conform to applicable laws and regulations of DOGGR at the time of their closure/abandonment. If future abandoned oil well-related cleanup were determined to be necessary, all work would be performed in accordance with the guidelines of the RWQCB and FPD, the enforcers of federal and State site remediation regulations in the area. As a result, the proposed project's contribution to cumulative impacts associated with development on or near hazardous material sites would not be cumulatively considerable and a less-than-significant impact would result.

Future development in the western portion of the County, including the related joint proposal projects, may be located in the vicinity of the Santa Barbara Municipal Airport and within its respective airport land use plan area. The risk to each future development project posed by a public airport is based upon location (defined as safety risk zones by the Santa Barbara Municipal Airport Land Use Plan), and is, therefore, unique and site-specific. It is likely that such risk, if sufficiently high, would be a factor in any decision to approve or deny future development proposals. As a result, cumulative risks to future development associated with proximity to the Santa Barbara Municipal Airport would be less than significant. As discussed under Impact 4.5-8, although future development would bring additional persons to the area, any risk of accident presented by flight operations at the Santa Barbara Municipal Airport would be extremely remote and the incremental increase in persons residing and utilizing areas within the Approach Zone and AIA would result in safety hazards that that would be considered less than significant. In the event of an emergency, the County, City and the campus maintain Emergency Operations Plan to respond to such emergencies. As a result, the proposed project's contribution to cumulative impacts associated with development near the Santa Barbara Municipal Airport would not be cumulatively considerable and a less-than-significant impact would result.

FACULTY AND FAMILY STUDENT HOUSING, OPEN SPACE PLAN, AND LRDP AMENDMENT EIR

Section 4.5 Hazards & Hazardous Materials

Construction and operation associated with the related joint proposal projects and other future development in the County could result in activities that could interfere with adopted emergency response or evacuation plans, primarily by temporary construction barricades or other obstructions that could impede emergency access. It is anticipated that future development projects will undergo CEQA review of potential impacts on adopted emergency response or evacuation plans, and will be required to implement measures necessary to mitigate potential impacts. As a result, cumulative impacts related to inference with adopted emergency response or evacuation plans would be less than significant. On-campus construction and operation activities that could interfere with emergency response or evacuation plans due to temporary construction barricades or other obstructions that could impede emergency access are mitigated by MM 4.5-9(b), which requires the continued implementation of the University's Emergency Operations Plan. Multiple emergency access or evacuation routes are provided on-campus to ensure that in the event one roadway or travel lane is temporarily blocked, another may be utilized. Furthermore, ongoing coordination between the UCPD, Santa Barbara County Fire Department, and the University, pursuant to MM 4.5-9(a), requires that roadway or travel lane closures will be coordinated with emergency response personnel to ensure that individual development components of the proposed project would not impair implementation of, or physically interfere with, emergency response and evacuation efforts. As a result, the proposed project's contribution to cumulative impacts associated with inference with adopted emergency response or evacuation plans would not be considered cumulatively considerable, and the impact would be less than significant.

Finally, future development in the County, including the related joint proposal projects, may be subject to risks associated with wildland fires as a result of proximity to several hundreds acres of natural open space. It is anticipated that future development will comply with the City of Santa Barbara's Wildland Fire Plan, and the City and County of Santa Barbara's Fire Code, both of which address fire prevention, and would be applicable to wildland fires. Accordingly, cumulative impacts associated with development on or near sites subject to wildland fire hazards would be less than significant. In addition, risks associated with wildland fire hazards would be mitigated by proper implementation of annual fuel management procedures to maintain a fire break between undeveloped areas and structures, as required by MM 4.5-10(b), as well as by provision of landscaping around development areas adjacent to preserved open space that emphasizes native or traditional plant material and provides a transition to developed areas in a manner that minimizes dense vegetation immediately adjacent to structural development, as required by MM 4.5-10(a). As a result, the proposed project's contribution to cumulative impacts associated with exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires would not be considered cumulatively considerable, and the impact would be less than significant.

4.5.6 References

The following is a list of references for this subsection. Please refer to Section 9.0 for the master reference list.

**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

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**FACULTY AND FAMILY STUDENT HOUSING,
OPEN SPACE PLAN, AND LRDP AMENDMENT EIR**

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Hazards &
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